Martin County Coal Corporation
Inez, Kentucky
Task Force Report
October 2001

Background Summary

On Wednesday October 11, 2000, a coal slurry impoundment owned and operated by the Martin County Coal Corporation (MCCC) had a sudden breach and released an estimated 250 million gallons of waste materials, including, coal mine fine refuse slurry, sediments, and other materials. The release occurred when an abandoned mine shaft collapsed under and adjacent to the refuse impoundment. The spilled waste material entered both the Wolf Creek and Rockcastle Creek watersheds. The spill has been described as one of the south's worst environmental disasters. The slurry left, fish, turtles, snakes and other aquatic species smothered as the slurry covered the bottoms of the streams and rivers and extended out into the adjacent flood plain.

Prior to the release, the water and coal wastes were contained in a 72 acre impoundment that was about 220 feet deep in places. The impoundment held 2.3 billion gallons of slurry. Response workers were able to stop the breach and contain the spill slurry after an estimated 250 million gallons were released.

MCCC is a coal mining company with a coal processing facility close to of Inez, Kentucky. It processes coal from several mines in the immediate area. The process consists of washing the coal to remove impurities. The impurities and small remaining coal particles are then crushed and screened. The crushed coal and impurities are commonly referred to as coal fines or culm. The waste water and the coal fines are then stored in the impoundment. A flocculent is added to precipitate the fine suspended coal and other waste particles in the impoundment. There are more than 280 of these impoundments in EPA Regions 3 and 4.

EPA Region 4 was contacted by the National Response Center and responded immediately to the release along with the Commonwealth of Kentucky. EPA On Scene Coordinators (OSCs) Fred Stroud and Art Smith were dispatched to the Spill.

The waste material which had been released from the site, entered the local surface waters and impacted more than 100 miles of stream beds and associated flood plains downstream, including the Tug Fork and Levisa Fork of the Big Sandy River, a tributary of the Ohio River. The spill buried yards and farms. It covered roads, disrupted water service, closed schools, business, and other public facilities. The OSCs, in coordination with the Commonwealth of Kentucky, the State of West Virginia's representatives, and MCCC, began directing response operations and providing alterative water supplies to the impacted communities.

Purpose of Coal Slurry Task Force

The Deputy Regional Administrator of Region 4 requested a taskforce be convened to address the extent of the area's overall impoundment problem along the lines of: 1) Extent of the potential problem; 2) Regulatory authorities; 3) Response authorities; and 4) Lessons learned (i.e., what interventions and responses would be considered next time). The Waste Management Division had the lead for this effort in Region 4. Taskforce members included a representative from each Division.

The Coal Slurry Task Force held a scoping meeting on November 9, 2000, to begin intensive coordination efforts. The main concern from the outset was to not re-invent the wheel or repeat work unnecessarily.

EPA Resources Applied to the Problem

EPA Region 3 and 4 OSCs have been committed to response activities since the initial spill event. Region 4 lead the coordination with the coal company and the mitigation of impacted streams, while Region 3 assisted with the coordination and provided technical assistance to water suppliers within West Virginia that were impacted by the releases. The Emergency Response Team (ERT) provided support in areas of water treatment, scientific support, and data management. The United States Coast Guard (USCG) Strike Team provided support with planning, communications, and operations. The Superfund Technical Assessment & Response Team (START) contractor provided support with operations, water treatment, and logistics. Representatives from Regions 3 and 4 attended the initial meeting of a national task force headed up by Mining Safety and Health Administration (MSHA) which included mining and environmental regulatory agency representatives from Kentucky and West Virginia. This task force will evaluate regulatory and technical approaches to coal waste impoundment facilities in an effort to prevent similar releases in the future. Region 3 has the lead for EPA on this task force.

Administrative Order on Consent

The U.S. Environmental Protection Agency announced on March 7, 2001, that MCCC has entered into an Administrative Order on Consent (Order) with the Agency for alleged violations of the Clean Water Act (CWA) which resulted from the sudden release of approximately 250 million gallons of coal slurry into rivers and streams in Kentucky and West Virginia. The Administrative Order ensures a sustained and appropriate level of cleanup that will make sure the impacted rivers and streams are fully restored.

The Administrative Order requires MCCC to contain the release of coal slurry into the environment; remove waste materials that have been discharged; restore the impacted rivers and streams, adjacent to the impacted areas; and offset any temporary or permanent impacts to the environment. This includes restoring the streams, river beds, and replanting the impacted adjacent areas. The MCCC also is required to reimburse costs incurred by EPA during the response and restoration action.

Since the release impacted many areas, EPA Region 3 and 4 have worked closely with representatives from West Virginia and Kentucky during the development of the Administrative Order. Following an approach first used in response to the Exxon Valdez oil spill, a Stream Assessment and Cleanup Survey Team, led by EPA, will develop the appropriate cleanup and restoration actions for the impacted areas.

The team now includes:

- EPA
- KY Division of Water (DOW)
- KY Dept. of Fish and Wildlife Resources
- KY Dept. of Environmental Protection (which includes, but is not limited to DOW)

- KY Department for Surface Mining, Reclamation, and Enforcement (only recently invited to participate)
- U.S. Fish and Wildlife Service
- WV Department of Natural Resources
- WV Dept. of Environmental Protection

The current primary key milestone documents from the Administrative Order are the: 1) Restoration Plan; 2) Ecological Risk Assessment Plan; and 3) Reference Stream Assessment Plan. As of July, 2001, EPA Region 4 Water Management Division has taken the technical lead with respect to compliance with the Administrative Order on Consent.

Community Involvement

After the signing of the Administrative Order, EPA coordinated a public meeting to discuss the Administrative Order, the Agency's role in the cleanup of the spill, provide information, and to answer questions. Subsequently, an EPA Community Relations Center was opened between May and June, 2001, in Inez, Kentucky. This was in response to the high level of public interest in the MCCC Slurry Spill. During that time, two Community Involvement Coordinators (CICs) and one Environmental Justice (EJ) person were used to man this office for 2 days per week. In addition, a survey form was mailed out to solicit community-based questions and concerns.

Since the Spring of 2001, a new community group, the Big Sandy Environmental Coalition (BSEC), began to organize the community to communicate their concerns to EPA. The chief officer of the BSEC is the Mayor of Inez. EPA is continuing to respond to a variety of community concerns and inquiries. Examples are as follows: Superfund and Compliance Issues; Soil and Gardening Concerns; Groundwater, Surface Water and Drinking Water Sources: Remediation and Restoration Concerns; Ecological Concerns; Health/Risk Issues. To continue this dialogue, in the early summer, EPA started a series of teleconference calls with environmental group (local/regional), the mayor and other interested parties.

In July, 2001, an internal work group formed as a result of the technical lead change from the Waste Division to Water Division. This cross-divisional work group (comprised of CIC, EJ, and technical staff) is the vehicle by which EPA is addressing these outstanding concerns. Currently, EPA Region 4 staff are in the early stages of working with the mayor, other local stakeholders and EPA Headquarters to establish a Community Advisory Group (CAG). A CAG offers the community a public forum for community members to present and discuss their needs and concerns about the decision-making process. In the summer, a local information repository was established at the Mayor of Inez's Office. The primary document placed there is the EPA Administrative Record. By September, the Emergency Response and Removal Branch (ERRB) MCCC site files were scanned, reviewed by FOIA officers, and are now available on CD-ROM.

In late summer, the EPA Waste Division signed an Inter-Agency Agreement with the U.S. Geological Survey (USGS) to compile all the data associated with the site. The completion date has not been determined.

Region 4 Universe of Impoundments

The Commonwealth of Kentucky Natural Resources Cabinet, Department for Surface Mining Reclamation and Enforcement (KY DSMRE) is currently in the process of evaluating all 121 "MSHA Class" impoundments in KY. MSHA Class is defined as any structure associated with coal mining operations which is built to impound water and is either 20' high, or capable of impounding 20 acre-feet of water. The US Department of Labor and the MSHA has identified approximately 121 impoundments and 60 as "high hazard" structures. This classification suggests that the consequence of an impoundment failure at these locations would be expected to imperil life, destroy property, and possibly have serious impacts to the environment. KY DSMRE's evaluations include~~s~~ site visits to each facility, review of underground maps, and field identification of the location of underground mine works. To date, evaluations for about 30 of the 121 structures have been completed, and as a direct result, KY DSMRE has already required certain coal plant operators to draw down the level of water stored in these structures to ensure stability.

Regulatory Authorities

Clean Water Act Sections 402 and 404

The CWA is the primary federal statute addressing the discharge of pollutants to waters of the U.S. Section 301(a) of the CWA generally prohibits such discharges except as may be authorized by a permit issued under the Act. Two different permitting regimes are created by the Act: (1) section 404 permits, primarily administered by the U.S. Army Corps of Engineers (COE), addressing the discharge of dredged or fill material, and (2) section 402 permits (commonly referred to as National Pollutant Discharge Elimination System, or "NPDES" permits), administered by EPA or approved State programs, which address the discharge of all other pollutants. The discharge of fill material into waters of the U.S. to create dams or impoundments associated with sedimentation ponds or slurry impoundments is regulated under section 404. When effluent is subsequently discharged into waters of the U.S. from sedimentation ponds, such effluent discharges are regulated under CWA section 402.

Questions have arisen in the past about which program authorizes discharges into the impoundment. The uncertainty has been associated with the fact that the Corps and EPA currently have different definitions for the term "fill material." Existing Corps regulations define "fill material" as any material used for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of a water body, and specifically exclude from that definition any material discharged primarily to dispose of waste. 33 C.F.R. 323.2(e). In contrast, the existing EPA definition defines "fill material" as any pollutant which replaces a portion of the waters of the U.S. with dry land or which changes the bottom elevation of such waters, regardless of the purpose of the discharge. 40 C.F.R.

232.2. In order to ensure a clear, effective, and consistent regulatory approach, the agencies have proposed, but not yet finalized, a revision to their regulations so as to provide identical definitions of the term "fill material." 65 Fed. Reg. 21292 (April 20, 2000).

Clean Water Act Section 301
Section 301 makes it unlawful for any person to discharge any pollutant, except in compliance with a permit under the act into waters of the US . Pollutant is defined in 502(6) of the CWA to include dredged spoil, solid waste, chemical wastes, rock, sand, cellar dirt, and industrial waste discharged

into water. When the breach occurred at the Martin County Coal Company impoundment and the slurry entered the watersheds, it was clear that this was a violation of 301.

Clean Water Act Section 311
CERCLA 311 is primarily a response authority. It is designed for response to oil or to listed hazardous substances which are released into waters of the US. The list of substances that allow a response under 311 are found at 40 CFR 116. EPA sampled the coal waste and was not able to show that any of the compounds listed under 311 were present.

Oil Pollution Act 311
For oil released into waters of the US OPA 311 is the response authority. Although coal is not oil it does develop into black water when released. The test for OPA response is the "sheen test" which has been applied to coal tar. The advantage of applying OPA to the coal releases is that it requires facilities subject to OPA to have spill prevention plans in place. They are also subject to inspection by OSCs to make sure they have adequate plans and equipment to respond to spills.

RCRA

Bevill Amendment
RCRA establishes a comprehensive regimen for the regulation of solid and hazardous waste disposal. However, the Bevill amendment to RCRA (40 CFR 261.4(b)(7) excludes coal mining wastes for the definition of hazardous waste.

RCRA 7003
RCRA 7003 imminent hazard section could be used to address the impoundments. While coal wastes are exempt from RCRA as hazardous waste they are still solid waste. Therefore under 7003 if the disposal or storage of solid waste presents an imminent and substantial endangerment to health or the environment, EPA can bring suit to restrain any person from continuing to store the waste.

CERCLA

Since CERCLA is primarily a response authority and not a regulatory program it can not be used to control the construction or use of the impoundments. However, when considering the MCCC slurry spill it is clear that CERCLA was the appropriate tool to address the environmental disaster after the release; unfortunately it is not a tool we can use to prevent a release.

There may be problems with the routine use of CERCLA to address coal slurry releases. In order for CERCLA costs to be recovered from potentially responsible parties (PRPs), EPA must incur response

costs associated with the release of a hazardous substance. While coal does contain trace amounts of hazardous substances, it is not clear that they rise to the level that would trigger an EPA response. Also, as stated previously, the Bevill amendment in RCRA excludes coal mining

wastes from the definition of hazardous wastes and some courts have opined that this also applies to CERCLA liability.

The use of CERCLA authority in the coal fields has as a policy matter been discouraged with these sites being deferred to the Surface Mining Control and Reclamation Act. The resource implications associated with applying the CERCLA authority to coal mining wastes was significant. There are thousands of abandoned mines. Many of the coal mines were created decades ago and have no existing PRPs.

In addition, many of these abandoned mine sites would require essentially perpetual treatment of water issuing from the mine sites.

EPA Region 4 Response Actions

The ERRB dispatched the On-Scene Coordinators on October 11, 2000 to coordinate the response to this incident. Within the first several days, it was learned that the spilled material impacted over 75 miles of surface water downstream of the site, including both the Tug Fork and Levisa Fork of the Big Sandy River, a tributary of the Ohio River. Tug Fork and Big Sandy Rivers comprises the border between West Virginia and Kentucky. Drinking water intakes in Kermit, WV, Crum, WV, Ft. Gay, WV, and Louisa, KY were closed. The KY Department of Fish and Wildlife has estimated that the majority of all fish and aquatic life in the creeks and Tug Fork were killed due to suffocation.

MCCC responded to the spill with their employees and contractor personnel and attempted to contain source material in Coldwater Fork of Rockcastle Creek and Wolf Creek. A multitude of state and federal agencies had also responded to the spill, each acting pursuant to their own authorities and jurisdictions. The OSC advised MCCC to utilize a response management tool such as the Unified Command/Incident Command system to coordinate the response to this incident. The OSC held numerous meetings with the other federal and state agencies to explain EPA's authority under the National Contingency Plan (NCP). Once the concepts of the NCP were better understood by MCCC and the other agencies, the cleanup proceeded as smoothly as was possible for a spill of this magnitude.

As of January 2001, activities conducted by MCCC have resulted in the removal of gross slurry deposits attributable to the initial release of October 11, 2000 from the streambed, banks, and flood plains of the following areas:

- Approximately eight stream miles of Coldwater Fork in the Rockcastle Creek watershed, from the North Portal to the Cain Property Cells along Kentucky State Road 908.

- Approximately five stream miles of Wolf Creek, from the confluence of Big Andy Branch and Panther Fork to the confluence of Carcass Branch with Wolf Creek.

However, the remaining quantities of slurry in areas downstream of these points continues to pose a

threat to the public welfare and the environment. The presence of slurry deposits in stream beds, on banks and in flood plain areas of the Wolf Creek, Rockcastle Creek and the Big Sandy River watersheds increases the potential for these materials to re-mobilize and cause blackwater conditions during precipitation events. As these materials re-deposit in downstream locations, certain aquatic habitats in these watersheds will be adversely impacted.

Lessons Learned

A crucial prevention measure is the identification of those impoundments determined to be at some increased risk of structural failure and causing serious harm to the public welfare and the environment. Then actions can be taken by the agencies with regulatory jurisdiction over mining activities. As a corollary measure, these agencies along with those responsible for ensuring public safety and environmental protection, should make sure that contingency plans are in place at the state and local level.

While prevention is the number one priority, if an event of this magnitude were to occur in the future, the Region would respond in a similar fashion. The same agencies (and likely the same individuals) at the federal and state level would again become involved. However, it is recommended that the roles and responsibilities be established early in the process were a another major incident to occur and, that the Regions utilize the Regional Response Team (RRT) as a vehicle for educating other federal and state agencies on EPA's response authorities in order to improve coordination.

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Martin Coal County Corporation Photographs